

PF-B229.ST25

## SEQUENCE LISTING

<110> KIM, Jung Moon  
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 YOOK, Jong In

<120> Non-activated Polypeptides having a function of tissue  
 regeneration and method for preparing the same

<130> PF-B0229

<140> PCT/KR2005/003660

<141> 2005-11-02

<150> KR10-2005-0026246

<151> 2005-03-30

<160> 26

<170> PatentIn version 3.2

<210> 1

<211> 114

<212> PRT

<213> Homo sapiens

<400> 1

Gln Ala Lys His Lys Gln Arg Lys Arg Leu Lys Ser Ser Cys Lys Arg  
 1 5 10 15

His Pro Leu Tyr Val Asp Phe Ser Asp Val Gly Trp Asn Asp Trp Ile  
 20 25 30

Val Ala Pro Pro Gly Tyr His Ala Phe Tyr Cys His Gly Glu Cys Pro  
 35 40 45

Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala Ile Val Gln  
 50 55 60

Thr Leu Val Asn Ser Val Asn Ser Lys Ile Pro Lys Ala Cys Cys Val  
 65 70 75 80

Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp Glu Asn Glu  
 85 90 95

Lys Val Val Leu Lys Asn Tyr Gln Asp Met Val Val Glu Gly Cys Gly  
 100 105 110

Cys Arg

<210> 2

<211> 183

<212> PRT

<213> Homo sapiens

<400> 2

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Ser Thr Gly Val Leu Leu Pro Leu Gln Asn Asn Glu Leu Pro Gly Ala  
1 5 10 15

Glu Tyr Gln Tyr Lys Lys Asp Glu Val Trp Glu Glu Arg Lys Pro Tyr  
20 25 30

Lys Thr Leu Gln Ala Gln Ala Pro Glu Lys Ser Lys Asn Lys Lys Lys  
35 40 45

Gln Arg Lys Gly Pro His Arg Lys Ser Gln Thr Leu Gln Phe Asp Glu  
50 55 60

Gln Thr Leu Lys Lys Ala Arg Arg Lys Gln Trp Ile Glu Pro Arg Asn  
65 70 75 80

Cys Ala Arg Arg Tyr Leu Lys Val Asp Phe Ala Asp Ile Gly Trp Ser  
85 90 95

Glu Trp Ile Ile Ser Pro Lys Ser Phe Asp Ala Tyr Tyr Cys Ser Gly  
100 105 110

Ala Cys Gln Phe Pro Met Pro Lys Ser Leu Lys Pro Ser Asn His Ala  
115 120 125

Thr Ile Gln Ser Ile Val Arg Ala Val Gly Val Val Pro Gly Ile Pro  
130 135 140

Glu Pro Cys Cys Val Pro Glu Lys Met Ser Ser Leu Ser Ile Leu Phe  
145 150 155 160

Phe Asp Glu Asn Lys Asn Val Val Leu Lys Val Tyr Pro Asn Met Thr  
165 170 175

Val Glu Ser Cys Ala Cys Arg  
180

<210> 3  
<211> 116  
<212> PRT  
<213> Homo sapiens

<400> 3

Ser Pro Lys His His Ser Gln Arg Ala Arg Lys Lys Asn Lys Asn Cys  
1 5 10 15

Arg Arg His Ser Leu Tyr Val Asp Phe Ser Asp Val Gly Trp Asn Asp  
20 25 30

Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr Cys His Gly Asp  
35 40 45

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Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala Ile  
50 55 60

Val Gln Thr Leu Val Asn Ser Val Asn Ser Ser Ile Pro Lys Ala Cys  
65 70 75 80

Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp Glu  
85 90 95

Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln Glu Met Val Val Glu Gly  
100 105 110

Cys Gly Cys Arg  
115

<210> 4  
<211> 138  
<212> PRT  
<213> Homo sapiens

<400> 4

Ala Ala Asn Lys Arg Lys Asn Gln Asn Arg Asn Lys Ser Ser Ser His  
1 5 10 15

Gln Asp Ser Ser Arg Met Ser Ser Val Gly Asp Tyr Asn Thr Ser Glu  
20 25 30

Gln Lys Gln Ala Cys Lys Lys His Glu Leu Tyr Val Ser Phe Arg Asp  
35 40 45

Leu Gly Trp Gln Asp Trp Ile Ile Ala Pro Glu Gly Tyr Ala Ala Phe  
50 55 60

Tyr Cys Asp Gly Glu Cys Ser Phe Pro Leu Asn Ala His Met Asn Ala  
65 70 75 80

Thr Asn His Ala Ile Val Gln Thr Leu Val His Leu Met Phe Pro Asp  
85 90 95

His Val Pro Lys Pro Cys Cys Ala Pro Thr Lys Leu Asn Ala Ile Ser  
100 105 110

Val Leu Tyr Phe Asp Asp Ser Ser Asn Val Ile Leu Lys Lys Tyr Arg  
115 120 125

Asn Met Val Val Arg Ser Cys Gly Cys His  
130 135

<210> 5  
<211> 139  
<212> PRT  
<213> Homo sapiens

<400> 5

Ser Ala Ser Ser Arg Arg Arg Gln Gln Ser Arg Asn Arg Ser Thr Gln  
1 5 10 15

Ser Gln Asp Val Ala Arg Val Ser Ser Ala Ser Asp Tyr Asn Ser Ser  
20 25 30

Glu Leu Lys Thr Ala Cys Arg Lys His Glu Leu Tyr Val Ser Phe Gln  
35 40 45

Asp Leu Gly Trp Gln Asp Trp Ile Ile Ala Pro Lys Gly Tyr Ala Ala  
50 55 60

Asn Tyr Cys Asp Gly Glu Cys Ser Phe Pro Leu Asn Ala His Met Asn  
65 70 75 80

Ala Thr Asn His Ala Ile Val Gln Thr Leu Val His Leu Met Asn Pro  
85 90 95

Glu Tyr Val Pro Lys Pro Cys Cys Ala Pro Thr Lys Leu Asn Ala Ile  
100 105 110

Ser Val Leu Tyr Phe Asp Asp Asn Ser Asn Val Ile Leu Lys Lys Tyr  
115 120 125

Arg Asn Met Val Val Arg Ala Cys Gly Cys His  
130 135

<210> 6

<211> 139

<212> PRT

<213> Homo sapiens

<400> 6

Ser Thr Gly Ser Lys Gln Arg Ser Gln Asn Arg Ser Lys Thr Pro Lys  
1 5 10 15

Asn Gln Glu Ala Leu Arg Met Ala Asn Val Ala Glu Asn Ser Ser Ser  
20 25 30

Asp Gln Arg Gln Ala Cys Lys Lys His Glu Leu Tyr Val Ser Phe Arg  
35 40 45

Asp Leu Gly Trp Gln Asp Trp Ile Ile Ala Pro Glu Gly Tyr Ala Ala  
50 55 60

Tyr Tyr Cys Glu Gly Glu Cys Ala Phe Pro Leu Asn Ser Tyr Met Asn  
65 70 75 80

Ala Thr Asn His Ala Ile Val Gln Thr Leu Val His Phe Ile Asn Pro  
85 90 95

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Glu Thr Val Pro Lys Pro Cys Cys Ala Pro Thr Gln Leu Asn Ala Ile  
100 105 110

Ser Val Leu Tyr Phe Asp Asp Ser Ser Asn Val Ile Leu Lys Lys Tyr  
115 120 125

Arg Asn Met Val Val Arg Ala Cys Gly Cys His  
130 135

<210> 7  
<211> 133  
<212> PRT  
<213> Homo sapiens

<400> 7

Arg Arg Gln Pro Lys Lys Ser Asn Glu Leu Pro Gln Ala Asn Arg Leu  
1 5 10 15

Pro Gly Ile Phe Asp Asp Val His Gly Ser His Gly Arg Gln Val Cys  
20 25 30

Arg Arg His Glu Leu Tyr Val Ser Phe Gln Asp Leu Gly Trp Leu Asp  
35 40 45

Trp Val Ile Ala Pro Gln Gly Tyr Ser Ala Tyr Tyr Cys Glu Gly Glu  
50 55 60

Cys Ser Phe Pro Leu Asp Ser Cys Met Asn Ala Thr Asn His Ala Ile  
65 70 75 80

Leu Gln Ser Leu Val His Leu Met Met Pro Asp Ala Val Pro Lys Ala  
85 90 95

Cys Cys Ala Pro Thr Lys Leu Ser Ala Thr Ser Val Leu Tyr Tyr Asp  
100 105 110

Ser Ser Asn Asn Val Ile Leu Arg Lys His Arg Asn Met Val Val Lys  
115 120 125

Ala Cys Gly Cys His  
130

<210> 8  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 8

Ser Ala Gly Ala Gly Ser His Cys Gln Lys Thr Ser Leu Arg Val Asn  
1 5 10 15

Phe Glu Asp Ile Gly Trp Asp Ser Trp Ile Ile Ala Pro Lys Glu Tyr  
5 페이지

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20 25 30

Glu Ala Tyr Glu Cys Lys Gly Gly Cys Phe Phe Pro Leu Ala Asp Asp  
35 40 45

Val Thr Pro Thr Lys His Ala Ile Val Gln Thr Leu Val His Leu Lys  
50 55 60

Phe Pro Thr Lys Val Gly Lys Ala Cys Cys Val Pro Thr Lys Leu Ser  
65 70 75 80

Pro Ile Ser Val Leu Tyr Lys Asp Asp Met Gly Val Pro Thr Leu Lys  
85 90 95

Tyr His Tyr Glu Gly Met Ser Val Ala Glu Cys Gly Cys Arg  
100 105 110

<210> 9  
<211> 108  
<212> PRT  
<213> Homo sapiens

<400> 9

Asn Ala Lys Gly Asn Tyr Cys Lys Arg Thr Pro Leu Tyr Ile Asp Phe  
1 5 10 15

Lys Glu Ile Gly Trp Asp Ser Trp Ile Ile Ala Pro Pro Gly Tyr Glu  
20 25 30

Ala Tyr Glu Cys Arg Gly Val Cys Asn Tyr Pro Leu Ala Glu His Leu  
35 40 45

Thr Pro Thr Lys His Ala Ile Ile Gln Ala Leu Val His Leu Lys Asn  
50 55 60

Ser Gln Lys Ala Ser Lys Ala Cys Cys Val Pro Thr Lys Leu Glu Pro  
65 70 75 80

Ile Ser Ile Leu Tyr Leu Asp Lys Gly Val Val Thr Tyr Lys Phe Lys  
85 90 95

Tyr Glu Gly Met Ala Val Ser Glu Cys Gly Cys Arg  
100 105

<210> 10  
<211> 108  
<212> PRT  
<213> Homo sapiens

<400> 10

Asn Ala Lys Gly Asn Tyr Cys Lys Arg Thr Pro Leu Tyr Ile Asp Phe  
1 5 10 15

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Lys Glu Ile Gly Trp Asp Ser Trp Ile Ile Ala Pro Pro Gly Tyr Glu  
20 25 30

Ala Tyr Glu Cys Arg Gly Val Cys Asn Tyr Pro Leu Ala Glu His Leu  
35 40 45

Thr Pro Thr Lys His Ala Ile Ile Gln Ala Leu Val His Leu Lys Asn  
50 55 60

Ser Gln Lys Ala Ser Lys Ala Cys Cys Val Pro Thr Lys Leu Glu Pro  
65 70 75 80

Ile Ser Ile Leu Tyr Leu Asp Lys Gly Val Val Thr Tyr Lys Phe Lys  
85 90 95

Tyr Glu Gly Met Ala Val Ser Glu Cys Gly Cys Arg  
100 105

<210> 11  
<211> 104  
<212> PRT  
<213> Homo sapiens

<400> 11

Ser Arg Cys Ser Arg Lys Pro Leu His Val Asp Phe Lys Glu Leu Gly  
1 5 10 15

Trp Asp Asp Trp Ile Ile Ala Pro Leu Asp Tyr Glu Ala Tyr His Cys  
20 25 30

Glu Gly Leu Cys Asp Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn  
35 40 45

His Ala Ile Ile Gln Thr Leu Leu Asn Ser Met Ala Pro Asp Ala Ala  
50 55 60

Pro Ala Ser Cys Cys Val Pro Ala Arg Leu Ser Pro Ile Ser Ile Leu  
65 70 75 80

Tyr Ile Asp Ala Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met  
85 90 95

Val Val Glu Ala Cys Gly Cys Arg  
100

<210> 12  
<211> 120  
<212> PRT  
<213> Homo sapiens

<400> 12

Thr Ala Phe Ala Ser Arg His Gly Lys Arg His Gly Lys Lys Ser Arg  
7 페이지

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1 5 10 15  
 Leu Arg Cys Ser Lys Lys Pro Leu His Val Asn Phe Lys Glu Leu Gly  
 20 25 30  
 Trp Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Tyr His Cys  
 35 40 45  
 Glu Gly Val Cys Asp Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn  
 50 55 60  
 His Ala Ile Ile Gln Thr Leu Met Asn Ser Met Asp Pro Gly Ser Thr  
 65 70 75 80  
 Pro Pro Ser Cys Cys Val Pro Thr Lys Leu Thr Pro Ile Ser Ile Leu  
 85 90 95  
 Tyr Ile Asp Ala Gly Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met  
 100 105 110  
 Val Val Glu Ser Cys Gly Cys Arg  
 115 120

<210> 13  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 13

Ala Pro Leu Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys  
 1 5 10 15  
 Ala Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly  
 20 25 30  
 Trp Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys  
 35 40 45  
 Glu Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn  
 50 55 60  
 His Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr  
 65 70 75 80  
 Pro Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu  
 85 90 95  
 Phe Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met  
 100 105 110  
 Val Val Glu Ser Cys Gly Cys Arg  
 115 120



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<210> 14  
 <211> 281  
 <212> PRT  
 <213> Homo sapiens

<400> 14

Met Val Ala Gly Thr Arg Cys Leu Leu Ala Leu Leu Pro Gln Val  
 1 5 10 15

Leu Leu Gly Gly Ala Ala Gly Leu Val Pro Glu Leu Gly Arg Arg Lys  
 20 25 30

Phe Ala Ala Ala Ser Ser Gly Arg Pro Ser Ser Gln Pro Ser Asp Glu  
 35 40 45

Val Leu Ser Glu Phe Glu Leu Arg Leu Leu Ser Met Phe Gly Leu Lys  
 50 55 60

Gln Arg Pro Thr Pro Ser Arg Asp Ala Val Val Pro Pro Tyr Met Leu  
 65 70 75 80

Asp Leu Tyr Arg Arg His Ser Gly Gln Pro Gly Ser Pro Ala Pro Asp  
 85 90 95

His Arg Leu Glu Arg Ala Ala Ser Arg Ala Asn Thr Val Arg Ser Phe  
 100 105 110

His His Glu Glu Ser Leu Glu Glu Leu Pro Glu Thr Ser Gly Lys Thr  
 115 120 125

Thr Arg Arg Phe Phe Phe Asn Leu Ser Ser Ile Pro Thr Glu Glu Phe  
 130 135 140

Ile Thr Ser Ala Glu Leu Gln Val Phe Arg Glu Gln Met Gln Asp Ala  
 145 150 155 160

Leu Gly Asn Asn Ser Ser Phe His His Arg Ile Asn Ile Tyr Glu Ile  
 165 170 175

Ile Lys Pro Ala Thr Ala Asn Ser Lys Phe Pro Val Thr Arg Leu Leu  
 180 185 190

Asp Thr Arg Leu Val Asn Gln Asn Ala Ser Arg Trp Glu Ser Phe Asp  
 195 200 205

Val Thr Pro Ala Val Met Arg Trp Thr Ala Gly His Ala Asn His Gly  
 210 215 220

Phe Val Val Glu Val Ala His Leu Glu Glu Lys Gln Gly Val Ser Lys  
 225 230 235 240

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Arg His Val Arg Ile Ser Arg Ser Leu His Gln Asp Glu His Ser Trp  
245 250 255

Ser Gln Ile Arg Pro Leu Leu Val Thr Phe Gly His Asp Gly Lys Gly  
260 265 270

His Pro Leu His Lys Arg Glu Lys Arg  
275 280

<210> 15  
<211> 289  
<212> PRT  
<213> Homo sapiens

<400> 15

Met Ala Gly Ala Ser Arg Leu Leu Phe Leu Trp Leu Gly Cys Phe Cys  
1 5 10 15

Val Ser Leu Ala Gln Gly Glu Arg Pro Lys Pro Pro Phe Pro Glu Leu  
20 25 30

Arg Lys Ala Val Pro Gly Asp Arg Thr Ala Gly Gly Gly Pro Asp Ser  
35 40 45

Glu Leu Gln Pro Gln Asp Lys Val Ser Glu His Met Leu Arg Leu Tyr  
50 55 60

Asp Arg Tyr Ser Thr Val Gln Ala Ala Arg Thr Pro Gly Ser Leu Glu  
65 70 75 80

Gly Gly Ser Gln Pro Trp Arg Pro Arg Leu Leu Arg Glu Gly Asn Thr  
85 90 95

Val Arg Ser Phe Arg Ala Ala Ala Ala Glu Thr Leu Glu Arg Lys Gly  
100 105 110

Leu Tyr Ile Phe Asn Leu Thr Ser Leu Thr Lys Ser Glu Asn Ile Leu  
115 120 125

Ser Ala Thr Leu Tyr Phe Cys Ile Gly Glu Leu Gly Asn Ile Ser Leu  
130 135 140

Ser Cys Pro Val Ser Gly Gly Cys Ser His His Ala Gln Arg Lys His  
145 150 155 160

Ile Gln Ile Asp Leu Ser Ala Trp Thr Leu Lys Phe Ser Arg Asn Gln  
165 170 175

Ser Gln Leu Leu Gly His Leu Ser Val Asp Met Ala Lys Ser His Arg  
180 185 190

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Asp Ile Met Ser Trp Leu Ser Lys Asp Ile Thr Gln Phe Leu Arg Lys  
195 200 205

Ala Lys Glu Asn Glu Glu Phe Leu Ile Gly Phe Asn Ile Thr Ser Lys  
210 215 220

Gly Arg Gln Leu Pro Lys Arg Arg Leu Pro Phe Pro Glu Pro Tyr Ile  
225 230 235 240

Leu Val Tyr Ala Asn Asp Ala Ala Ile Ser Glu Pro Glu Ser Val Val  
245 250 255

Ser Ser Leu Gln Gly His Arg Asn Phe Pro Thr Gly Thr Val Pro Lys  
260 265 270

Trp Asp Ser His Ile Arg Ala Ala Leu Ser Ile Glu Arg Arg Lys Lys  
275 280 285

Arg

<210> 16  
<211> 292  
<212> PRT  
<213> Homo sapiens

<400> 16

Met Ile Pro Gly Asn Arg Met Leu Met Val Val Leu Leu Cys Gln Val  
1 5 10 15

Leu Leu Gly Gly Ala Ser His Ala Ser Leu Ile Pro Glu Thr Gly Lys  
20 25 30

Lys Lys Val Ala Glu Ile Gln Gly His Ala Gly Gly Arg Arg Ser Gly  
35 40 45

Gln Ser His Glu Leu Leu Arg Asp Phe Glu Ala Thr Leu Leu Gln Met  
50 55 60

Phe Gly Leu Arg Arg Arg Pro Gln Pro Ser Lys Ser Ala Val Ile Pro  
65 70 75 80

Asp Tyr Met Arg Asp Leu Tyr Arg Leu Gln Ser Gly Glu Glu Glu Glu  
85 90 95

Glu Gln Ile His Ser Thr Gly Leu Glu Tyr Pro Glu Arg Pro Ala Ser  
100 105 110

Arg Ala Asn Thr Val Arg Ser Phe His His Glu His Leu Glu Asn  
115 120 125

Ile Pro Gly Thr Ser Glu Asn Ser Ala Phe Arg Phe Leu Phe Asn Leu  
11 페이지

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130

135

140

Ser Ser Ile Pro Glu Asn Glu Ala Ile Ser Ser Ala Glu Leu Arg Leu  
145 150 155 160

Phe Arg Glu Gln Val Asp Gln Gly Pro Asp Trp Glu Arg Gly Phe His  
165 170 175

Arg Ile Asn Ile Tyr Glu Val Met Lys Pro Pro Ala Glu Val Val Pro  
180 185 190

Gly His Leu Ile Thr Arg Leu Leu Asp Thr Arg Leu Val His His Asn  
195 200 205

Val Thr Arg Trp Glu Thr Phe Asp Val Ser Pro Ala Val Leu Arg Trp  
210 215 220

Thr Arg Glu Lys Gln Pro Asn Tyr Gly Leu Ala Ile Glu Val Thr His  
225 230 235 240

Leu His Gln Thr Arg Thr His Gln Gly Gln His Val Arg Ile Ser Arg  
245 250 255

Ser Leu Pro Gln Gly Ser Gly Asn Trp Ala Gln Leu Arg Pro Leu Leu  
260 265 270

Val Thr Phe Gly His Asp Gly Arg Gly His Ala Leu Thr Arg Arg Arg  
275 280 285

Arg Ala Lys Arg  
290

<210> 17  
<211> 316  
<212> PRT  
<213> Homo sapiens

<400> 17

Met His Leu Thr Val Phe Leu Leu Lys Gly Ile Val Gly Phe Leu Trp  
1 5 10 15

Ser Cys Trp Val Leu Val Gly Tyr Ala Lys Gly Gly Leu Gly Asp Asn  
20 25 30

His Val His Ser Ser Phe Ile Tyr Arg Arg Leu Arg Asn His Glu Arg  
35 40 45

Arg Glu Ile Gln Arg Glu Ile Leu Ser Ile Leu Gly Leu Pro His Arg  
50 55 60

Pro Arg Pro Phe Ser Pro Gly Lys Gln Ala Ser Ser Ala Pro Leu Phe  
65 70 75 80

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Met Leu Asp Leu Tyr Asn Ala Met Thr Asn Glu Glu Asn Pro Glu Glu  
85 90 95

Ser Glu Tyr Ser Val Arg Ala Ser Leu Ala Glu Glu Thr Arg Gly Ala  
100 105 110

Arg Lys Gly Tyr Pro Ala Ser Pro Asn Gly Tyr Pro Arg Arg Ile Gln  
115 120 125

Leu Ser Arg Thr Thr Pro Leu Thr Thr Gln Ser Pro Pro Leu Ala Ser  
130 135 140

Leu His Asp Thr Asn Phe Leu Asn Asp Ala Asp Met Val Met Ser Phe  
145 150 155 160

Val Asn Leu Val Glu Arg Asp Lys Asp Phe Ser His Gln Arg Arg His  
165 170 175

Tyr Lys Glu Phe Arg Phe Asp Leu Thr Gln Ile Pro His Gly Glu Ala  
180 185 190

Val Thr Ala Ala Glu Phe Arg Ile Tyr Lys Asp Arg Ser Asn Asn Arg  
195 200 205

Phe Glu Asn Glu Thr Ile Lys Ile Ser Ile Tyr Gln Ile Ile Lys Glu  
210 215 220

Tyr Thr Asn Arg Asp Ala Asp Leu Phe Leu Leu Asp Thr Arg Lys Ala  
225 230 235 240

Gln Ala Leu Asp Val Gly Trp Leu Val Phe Asp Ile Thr Val Thr Ser  
245 250 255

Asn His Trp Val Ile Asn Pro Gln Asn Asn Leu Gly Leu Gln Leu Cys  
260 265 270

Ala Glu Thr Gly Asp Gly Arg Ser Ile Asn Val Lys Ser Ala Gly Leu  
275 280 285

Val Gly Arg Gln Gly Pro Gln Ser Lys Gln Pro Phe Met Val Ala Phe  
290 295 300

Phe Lys Ala Ser Glu Val Leu Leu Arg Ser Val Arg  
305 310 315

<210> 18  
<211> 374  
<212> PRT  
<213> Homo sapiens

<400> 18

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Met Pro Gly Leu Gly Arg Arg Ala Gln Trp Leu Cys Trp Trp Trp Gly  
1 5 10 15

Leu Leu Cys Ser Cys Cys Gly Pro Pro Pro Leu Arg Pro Pro Leu Pro  
20 25 30

Ala Ala Ala Ala Ala Ala Gly Gly Gln Leu Leu Gly Asp Gly Gly  
35 40 45

Ser Pro Gly Arg Thr Glu Gln Pro Pro Pro Ser Pro Gln Ser Ser Ser  
50 55 60

Gly Phe Leu Tyr Arg Arg Leu Lys Thr Gln Glu Lys Arg Glu Met Gln  
65 70 75 80

Lys Glu Ile Leu Ser Val Leu Gly Leu Pro His Arg Pro Arg Pro Leu  
85 90 95

His Gly Leu Gln Gln Pro Gln Pro Pro Ala Leu Arg Gln Gln Glu Glu  
100 105 110

Gln Gln Gln Gln Gln Gln Leu Pro Arg Gly Glu Pro Pro Pro Gly Arg  
115 120 125

Leu Lys Ser Ala Pro Leu Phe Met Leu Asp Leu Tyr Asn Ala Leu Ser  
130 135 140

Ala Asp Asn Asp Glu Asp Gly Ala Ser Glu Gly Glu Arg Gln Gln Ser  
145 150 155 160

Trp Pro His Glu Ala Ala Ser Ser Ser Gln Arg Arg Gln Pro Pro Pro  
165 170 175

Gly Ala Ala His Pro Leu Asn Arg Lys Ser Leu Leu Ala Pro Gly Ser  
180 185 190

Gly Ser Gly Gly Ala Ser Pro Leu Thr Ser Ala Gln Asp Ser Ala Phe  
195 200 205

Leu Asn Asp Ala Asp Met Val Met Ser Phe Val Asn Leu Val Glu Tyr  
210 215 220

Asp Lys Glu Phe Ser Pro Arg Gln Arg His His Lys Glu Phe Lys Phe  
225 230 235 240

Asn Leu Ser Gln Ile Pro Glu Gly Glu Val Val Thr Ala Ala Glu Phe  
245 250 255

Arg Ile Tyr Lys Asp Cys Val Met Gly Ser Phe Lys Asn Gln Thr Phe  
260 265 270

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Leu Ile Ser Ile Tyr Gln Val Leu Gln Glu His Gln His Arg Asp Ser  
275 280 285

Asp Leu Phe Leu Leu Asp Thr Arg Val Val Trp Ala Ser Glu Glu Gly  
290 295 300

Trp Leu Glu Phe Asp Ile Thr Ala Thr Ser Asn Leu Trp Val Val Thr  
305 310 315 320

Pro Gln His Asn Met Gly Leu Gln Leu Ser Val Val Thr Arg Asp Gly  
325 330 335

Val His Val His Pro Arg Ala Ala Gly Leu Val Gly Arg Asp Gly Pro  
340 345 350

Tyr Asp Lys Gln Pro Phe Met Val Ala Phe Phe Lys Val Ser Glu Val  
355 360 365

His Val Arg Thr Thr Arg  
370

<210> 19  
<211> 292  
<212> PRT  
<213> Homo sapiens

<400> 19

Met His Val Arg Ser Leu Arg Ala Ala Pro His Ser Phe Val Ala  
1 5 10 15

Leu Trp Ala Pro Leu Phe Leu Leu Arg Ser Ala Leu Ala Asp Phe Ser  
20 25 30

Leu Asp Asn Glu Val His Ser Ser Phe Ile His Arg Arg Leu Arg Ser  
35 40 45

Gln Glu Arg Arg Glu Met Gln Arg Glu Ile Leu Ser Ile Leu Gly Leu  
50 55 60

Pro His Arg Pro Arg Pro His Leu Gln Gly Lys His Asn Ser Ala Pro  
65 70 75 80

Met Phe Met Leu Asp Leu Tyr Asn Ala Met Ala Val Glu Glu Gly Gly  
85 90 95

Gly Pro Gly Gly Gln Gly Phe Ser Tyr Pro Tyr Lys Ala Val Phe Ser  
100 105 110

Thr Gln Gly Pro Pro Leu Ala Ser Leu Gln Asp Ser His Phe Leu Thr  
115 120 125

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Asp Ala Asp Met Val Met Ser Phe Val Asn Leu Val Glu His Asp Lys  
130 135 140

Glu Phe Phe His Pro Arg Tyr His His Arg Glu Phe Arg Phe Asp Leu  
145 150 155 160

Ser Lys Ile Pro Glu Gly Glu Ala Val Thr Ala Ala Glu Phe Arg Ile  
165 170 175

Tyr Lys Asp Tyr Ile Arg Glu Arg Phe Asp Asn Glu Thr Phe Arg Ile  
180 185 190

Ser Val Tyr Gln Val Leu Gln Glu His Leu Gly Arg Glu Ser Asp Leu  
195 200 205

Phe Leu Leu Asp Ser Arg Thr Leu Trp Ala Ser Glu Glu Gly Trp Leu  
210 215 220

Val Phe Asp Ile Thr Ala Thr Ser Asn His Trp Val Val Asn Pro Arg  
225 230 235 240

His Asn Leu Gly Leu Gln Leu Ser Val Glu Thr Leu Asp Gly Gln Ser  
245 250 255

Ile Asn Pro Lys Leu Ala Gly Leu Ile Gly Arg His Gly Pro Gln Asn  
260 265 270

Lys Gln Pro Phe Met Val Ala Phe Phe Lys Ala Thr Glu Val His Phe  
275 280 285

Arg Ser Ile Arg  
290

<210> 20  
<211> 269  
<212> PRT  
<213> Homo sapiens

<400> 20

Met Thr Ala Leu Pro Gly Pro Leu Trp Leu Leu Gly Leu Ala Leu Cys  
1 5 10 15

Ala Leu Gly Gly Gly Gly Pro Gly Leu Arg Pro Pro Gly Cys Pro  
20 25 30

Gln Arg Arg Leu Gly Ala Arg Glu Arg Arg Asp Val Gln Arg Glu Ile  
35 40 45

Leu Ala Val Leu Gly Leu Pro Gly Arg Pro Arg Pro Arg Ala Pro Pro  
50 55 60

Ala Ala Ser Arg Leu Pro Ala Ser Ala Pro Leu Phe Met Leu Asp Leu  
16 페이지



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65                      70                      75                      80

Tyr His Ala Met Ala Gly Asp Asp Asp Glu Asp Gly Ala Pro Ala Glu  
85                      90                      95

Arg Arg Leu Gly Arg Ala Asp Leu Val Met Ser Phe Val Asn Met Val  
100                      105                      110

Glu Arg Asp Arg Ala Leu Gly His Gln Glu Pro His Trp Lys Glu Phe  
115                      120                      125

Arg Phe Asp Leu Thr Gln Ile Pro Ala Gly Glu Ala Val Thr Ala Ala  
130                      135                      140

Glu Phe Arg Ile Tyr Lys Val Pro Ser Ile His Leu Leu Asn Arg Thr  
145                      150                      155                      160

Leu His Val Ser Met Phe Gln Val Val Gln Glu Gln Ser Asn Arg Glu  
165                      170                      175

Ser Asp Leu Phe Phe Leu Asp Leu Gln Thr Leu Arg Ala Gly Asp Glu  
180                      185                      190

Gly Trp Leu Val Leu Asp Val Thr Ala Ala Ser Asp Cys Trp Leu Leu  
195                      200                      205

Lys Arg His Lys Asp Leu Gly Leu Arg Leu Tyr Val Glu Thr Glu Asp  
210                      215                      220

Gly His Ser Val Asp Pro Gly Leu Ala Gly Leu Leu Gly Gln Arg Ala  
225                      230                      235                      240

Pro Arg Ser Gln Gln Pro Phe Val Val Thr Phe Phe Arg Ala Ser Pro  
245                      250                      255

Ser Pro Ile Arg Thr Pro Arg Ala Val Arg Pro Leu Arg  
260                      265

<210> 21  
<211> 318  
<212> PRT  
<213> Homo sapiens

<400> 21

Met Cys Pro Gly Ala Leu Trp Val Ala Leu Pro Leu Leu Ser Leu Leu  
1                      5                      10                      15

Ala Gly Ser Leu Gln Gly Lys Pro Leu Gln Ser Trp Gly Arg Gly Ser  
20                      25                      30

Ala Gly Gly Asn Ala His Ser Pro Leu Gly Val Pro Gly Gly Gly Leu  
35                      40                      45

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Pro Glu His Thr Phe Asn Leu Lys Met Phe Leu Glu Asn Val Lys Val  
50 55 60

Asp Phe Leu Arg Ser Leu Asn Leu Ser Gly Val Pro Ser Gln Asp Lys  
65 70 75 80

Thr Arg Val Glu Pro Pro Gln Tyr Met Ile Asp Leu Tyr Asn Arg Tyr  
85 90 95

Thr Ser Asp Lys Ser Thr Pro Ala Ser Asn Ile Val Arg Ser Phe Ser  
100 105 110

Met Glu Asp Ala Ile Ser Ile Thr Ala Thr Glu Asp Phe Pro Phe Gln  
115 120 125

Lys His Ile Leu Leu Phe Asn Ile Ser Ile Pro Arg His Glu Gln Ile  
130 135 140

Thr Arg Ala Glu Leu Arg Leu Tyr Val Ser Cys Gln Asn His Val Asp  
145 150 155 160

Pro Ser His Asp Leu Lys Gly Ser Val Val Ile Tyr Asp Val Leu Asp  
165 170 175

Gly Thr Asp Ala Trp Asp Ser Ala Thr Glu Thr Lys Thr Phe Leu Val  
180 185 190

Ser Gln Asp Ile Gln Asp Glu Gly Trp Glu Thr Leu Glu Val Ser Ser  
195 200 205

Ala Val Lys Arg Trp Val Arg Ser Asp Ser Thr Lys Ser Lys Asn Lys  
210 215 220

Leu Glu Val Thr Val Glu Ser His Arg Lys Gly Cys Asp Thr Leu Asp  
225 230 235 240

Ile Ser Val Pro Pro Gly Ser Arg Asn Leu Pro Phe Phe Val Val Phe  
245 250 255

Ser Asn Asp His Ser Ser Gly Thr Lys Glu Thr Arg Leu Glu Leu Arg  
260 265 270

Glu Met Ile Ser His Glu Gln Glu Ser Val Leu Lys Lys Leu Ser Lys  
275 280 285

Asp Gly Ser Thr Glu Ala Gly Glu Ser Ser His Glu Glu Asp Thr Asp  
290 295 300

Gly His Val Ala Ala Gly Ser Thr Leu Ala Arg Arg Lys Arg  
305 310 315

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<210> 22  
 <211> 316  
 <212> PRT  
 <213> Homo sapiens

<400> 22

Met Gly Ser Leu Val Leu Thr Leu Cys Ala Leu Phe Cys Leu Ala Ala  
 1 5 10 15

Tyr Leu Val Ser Gly Ser Pro Ile Met Asn Leu Glu Gln Ser Pro Leu  
 20 25 30

Glu Glu Asp Met Ser Leu Phe Gly Asp Val Phe Ser Glu Gln Asp Gly  
 35 40 45

Val Asp Phe Asn Thr Leu Leu Gln Ser Met Lys Asp Glu Phe Leu Lys  
 50 55 60

Thr Leu Asn Leu Ser Asp Ile Pro Thr Gln Asp Ser Ala Lys Val Asp  
 65 70 75 80

Pro Pro Glu Tyr Met Leu Glu Leu Tyr Asn Lys Phe Ala Thr Asp Arg  
 85 90 95

Thr Ser Met Pro Ser Ala Asn Ile Ile Arg Ser Phe Lys Asn Glu Asp  
 100 105 110

Leu Phe Ser Gln Pro Val Ser Phe Asn Gly Leu Arg Lys Tyr Pro Leu  
 115 120 125

Leu Phe Asn Val Ser Ile Pro His His Glu Glu Val Ile Met Ala Glu  
 130 135 140

Leu Arg Leu Tyr Thr Leu Val Gln Arg Asp Arg Met Ile Tyr Asp Gly  
 145 150 155 160

Val Asp Arg Lys Ile Thr Ile Phe Glu Val Leu Glu Ser Lys Gly Asp  
 165 170 175

Asn Glu Gly Glu Arg Asn Met Leu Val Leu Val Ser Gly Glu Ile Tyr  
 180 185 190

Gly Thr Asn Ser Glu Trp Glu Thr Phe Asp Val Thr Asp Ala Ile Arg  
 195 200 205

Arg Trp Gln Lys Ser Gly Ser Ser Thr His Gln Leu Glu Val His Ile  
 210 215 220

Glu Ser Lys His Asp Glu Ala Glu Asp Ala Ser Ser Gly Arg Leu Glu  
 225 230 235 240

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Ile Asp Thr Ser Ala Gln Asn Lys His Asn Pro Leu Leu Ile Val Phe  
245 250 255

Ser Asp Asp Gln Ser Ser Asp Lys Glu Arg Lys Glu Glu Leu Asn Glu  
260 265 270

Met Ile Ser His Glu Gln Leu Pro Glu Leu Asp Asn Leu Gly Leu Asp  
275 280 285

Ser Phe Ser Ser Gly Pro Gly Glu Glu Ala Leu Leu Gln Met Arg Ser  
290 295 300

Asn Ile Ile Tyr Asp Ser Thr Ala Arg Ile Arg Arg  
305 310 315

<210> 23  
<211> 316  
<212> PRT  
<213> Homo sapiens  
<400> 23

Met Gly Ser Leu Val Leu Thr Leu Cys Ala Leu Phe Cys Leu Ala Ala  
1 5 10 15

Tyr Leu Val Ser Gly Ser Pro Ile Met Asn Leu Glu Gln Ser Pro Leu  
20 25 30

Glu Glu Asp Met Ser Leu Phe Gly Asp Val Phe Ser Glu Gln Asp Gly  
35 40 45

Val Asp Phe Asn Thr Leu Leu Gln Ser Met Lys Asp Glu Phe Leu Lys  
50 55 60

Thr Leu Asn Leu Ser Asp Ile Pro Thr Gln Asp Ser Ala Lys Val Asp  
65 70 75 80

Pro Pro Glu Tyr Met Leu Glu Leu Tyr Asn Lys Phe Ala Thr Asp Arg  
85 90 95

Thr Ser Met Pro Ser Ala Asn Ile Ile Arg Ser Phe Lys Asn Glu Asp  
100 105 110

Leu Phe Ser Gln Pro Val Ser Phe Asn Gly Leu Arg Lys Tyr Pro Leu  
115 120 125

Leu Phe Asn Val Ser Ile Pro His His Glu Glu Val Ile Met Ala Glu  
130 135 140

Leu Arg Leu Tyr Thr Leu Val Gln Arg Asp Arg Met Ile Tyr Asp Gly  
145 150 155 160

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Val Asp Arg Lys Ile Thr Ile Phe Glu Val Leu Glu Ser Lys Gly Asp  
165 170 175

Asn Glu Gly Glu Arg Asn Met Leu Val Leu Val Ser Gly Glu Ile Tyr  
180 185 190

Gly Thr Asn Ser Glu Trp Glu Thr Phe Asp Val Thr Asp Ala Ile Arg  
195 200 205

Arg Trp Gln Lys Ser Gly Ser Ser Thr His Gln Leu Glu Val His Ile  
210 215 220

Glu Ser Lys His Asp Glu Ala Glu Asp Ala Ser Ser Gly Arg Leu Glu  
225 230 235 240

Ile Asp Thr Ser Ala Gln Asn Lys His Asn Pro Leu Leu Ile Val Phe  
245 250 255

Ser Asp Asp Gln Ser Ser Asp Lys Glu Arg Lys Glu Glu Leu Asn Glu  
260 265 270

Met Ile Ser His Glu Gln Leu Pro Glu Leu Asp Asn Leu Gly Leu Asp  
275 280 285

Ser Phe Ser Ser Gly Pro Gly Glu Glu Ala Leu Leu Gln Met Arg Ser  
290 295 300

Asn Ile Ile Tyr Asp Ser Thr Ala Arg Ile Arg Arg  
305 310 315

<210> 24  
<211> 346  
<212> PRT  
<213> Homo sapiens

<400> 24

Met Asp Leu Ser Ala Ala Ala Ala Leu Cys Leu Trp Leu Leu Ser Ala  
1 5 10 15

Cys Arg Pro Arg Asp Gly Leu Glu Ala Ala Ala Val Leu Arg Ala Ala  
20 25 30

Gly Ala Gly Pro Val Arg Ser Pro Gly Gly Gly Gly Gly Gly Gly  
35 40 45

Gly Gly Arg Thr Leu Ala Gln Ala Ala Gly Ala Ala Ala Val Pro Ala  
50 55 60

Ala Ala Val Pro Arg Ala Arg Ala Ala Arg Arg Ala Ala Gly Ser Gly  
65 70 75 80

Phe Arg Asn Gly Ser Val Val Pro His His Phe Met Met Ser Leu Tyr  
21 페이지

85

90

95

Arg Ser Leu Ala Gly Arg Ala Pro Ala Gly Ala Ala Val Ser Ala  
 100 105 110

Ser Gly His Gly Arg Ala Asp Thr Ile Thr Gly Phe Thr Asp Gln Ala  
 115 120 125

Thr Gln Asp Glu Ser Ala Ala Glu Thr Gly Gln Ser Phe Leu Phe Asp  
 130 135 140

Val Ser Ser Leu Asn Asp Ala Asp Glu Val Val Gly Ala Glu Leu Arg  
 145 150 155 160

Val Leu Arg Arg Gly Ser Pro Glu Ser Gly Pro Gly Ser Trp Thr Ser  
 165 170 175

Pro Pro Leu Leu Leu Leu Ser Thr Cys Pro Gly Ala Ala Arg Ala Pro  
 180 185 190

Arg Leu Leu Tyr Ser Arg Ala Ala Glu Pro Leu Val Gly Gln Arg Trp  
 195 200 205

Glu Ala Phe Asp Val Ala Asp Ala Met Arg Arg His Arg Arg Glu Pro  
 210 215 220

Arg Pro Pro Arg Ala Phe Cys Leu Leu Arg Ala Val Ala Gly Pro  
 225 230 235 240

Val Pro Ser Pro Leu Ala Leu Arg Arg Leu Gly Phe Gly Trp Pro Gly  
 245 250 255

Gly Gly Gly Ser Ala Ala Glu Glu Arg Ala Val Leu Val Val Ser Ser  
 260 265 270

Arg Thr Gln Arg Lys Glu Ser Leu Phe Arg Glu Ile Arg Ala Gln Ala  
 275 280 285

Arg Ala Leu Gly Ala Ala Leu Ala Ser Glu Pro Leu Pro Asp Pro Gly  
 290 295 300

Thr Gly Thr Ala Ser Pro Arg Ala Val Ile Gly Gly Arg Arg Arg Arg  
 305 310 315 320

Arg Thr Ala Leu Ala Gly Thr Arg Thr Ala Gln Gly Ser Gly Gly Gly  
 325 330 335

Ala Gly Arg Gly His Gly Arg Arg Gly Arg  
 340 345

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<211> 335  
<212> PRT  
<213> Homo sapiens

<400> 25

Met Asp Thr Pro Arg Val Leu Leu Ser Ala Val Phe Leu Ile Ser Phe  
1 5 10 15

Leu Trp Asp Leu Pro Gly Phe Gln Gln Ala Ser Ile Ser Ser Ser Ser  
20 25 30

Ser Ser Ala Glu Leu Gly Ser Thr Lys Gly Met Arg Ser Arg Lys Glu  
35 40 45

Gly Lys Met Gln Arg Ala Pro Arg Asp Ser Asp Ala Gly Arg Glu Gly  
50 55 60

Gln Glu Pro Gln Pro Arg Pro Gln Asp Glu Pro Arg Ala Gln Gln Pro  
65 70 75 80

Arg Ala Gln Glu Pro Pro Gly Arg Gly Pro Arg Val Val Pro His Glu  
85 90 95

Tyr Met Leu Ser Ile Tyr Arg Thr Tyr Ser Ile Ala Glu Lys Leu Gly  
100 105 110

Ile Asn Ala Ser Phe Phe Gln Ser Ser Lys Ser Ala Asn Thr Ile Thr  
115 120 125

Ser Phe Val Asp Arg Gly Leu Asp Asp Leu Ser His Thr Pro Leu Arg  
130 135 140

Arg Gln Lys Tyr Leu Phe Asp Val Ser Met Leu Ser Asp Lys Glu Glu  
145 150 155 160

Leu Val Gly Ala Glu Leu Arg Leu Phe Arg Gln Ala Pro Ser Ala Pro  
165 170 175

Trp Gly Pro Pro Ala Gly Pro Leu His Val Gln Leu Phe Pro Cys Leu  
180 185 190

Ser Pro Leu Leu Leu Asp Ala Arg Thr Leu Asp Pro Gln Gly Ala Pro  
195 200 205

Pro Ala Gly Trp Glu Val Phe Asp Val Trp Gln Gly Leu Arg His Gln  
210 215 220

Pro Trp Lys Gln Leu Cys Leu Glu Leu Arg Ala Ala Trp Gly Glu Leu  
225 230 235 240

Asp Ala Gly Glu Ala Glu Ala Arg Ala Arg Gly Pro Gln Gln Pro Pro  
245 250 255

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Pro Pro Asp Leu Arg Ser Leu Gly Phe Gly Arg Arg Val Arg Pro Pro  
260 265 270

Gln Glu Arg Ala Leu Leu Val Val Phe Thr Arg Ser Gln Arg Lys Asn  
275 280 285

Leu Phe Ala Glu Met Arg Glu Gln Leu Gly Ser Ala Glu Ala Ala Gly  
290 295 300

Pro Gly Ala Gly Ala Glu Gly Ser Trp Pro Pro Pro Ser Gly Ala Pro  
305 310 315 320

Asp Ala Arg Pro Trp Leu Pro Ser Pro Gly Arg Arg Arg Arg Arg  
325 330 335

<210> 26  
<211> 381  
<212> PRT  
<213> Homo sapiens

<400> 26

Met Arg Leu Pro Lys Leu Leu Thr Phe Leu Leu Trp Tyr Leu Ala Trp  
1 5 10 15

Leu Asp Leu Glu Phe Ile Cys Thr Val Leu Gly Ala Pro Asp Leu Gly  
20 25 30

Gln Arg Pro Gln Gly Thr Arg Pro Gly Leu Ala Lys Ala Glu Ala Lys  
35 40 45

Glu Arg Pro Pro Leu Ala Arg Asn Val Phe Arg Pro Gly Gly His Ser  
50 55 60

Tyr Gly Gly Gly Ala Thr Asn Ala Asn Ala Arg Ala Lys Gly Gly Thr  
65 70 75 80

Gly Gln Thr Gly Gly Leu Thr Gln Pro Lys Lys Asp Glu Pro Lys Lys  
85 90 95

Leu Pro Pro Arg Pro Gly Gly Pro Glu Pro Lys Pro Gly His Pro Pro  
100 105 110

Gln Thr Arg Gln Ala Thr Ala Arg Thr Val Thr Pro Lys Gly Gln Leu  
115 120 125

Pro Gly Gly Lys Ala Pro Pro Lys Ala Gly Ser Val Pro Ser Ser Phe  
130 135 140

Leu Leu Lys Lys Ala Arg Glu Pro Gly Pro Pro Arg Glu Pro Lys Glu  
145 150 155 160



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Pro Phe Arg Pro Pro Pro Ile Thr Pro His Glu Tyr Met Leu Ser Leu  
165 170 175

Tyr Arg Thr Leu Ser Asp Ala Asp Arg Lys Gly Gly Asn Ser Ser Val  
180 185 190

Lys Leu Glu Ala Gly Leu Ala Asn Thr Ile Thr Ser Phe Ile Asp Lys  
195 200 205

Gly Gln Asp Asp Arg Gly Pro Val Val Arg Lys Gln Arg Tyr Val Phe  
210 215 220

Asp Ile Ser Ala Leu Glu Lys Asp Gly Leu Leu Gly Ala Glu Leu Arg  
225 230 235 240

Ile Leu Arg Lys Lys Pro Ser Asp Thr Ala Lys Pro Ala Ala Pro Gly  
245 250 255

Gly Gly Arg Ala Ala Gln Leu Lys Leu Ser Ser Cys Pro Ser Gly Arg  
260 265 270

Gln Pro Ala Ser Leu Leu Asp Val Arg Ser Val Pro Gly Leu Asp Gly  
275 280 285

Ser Gly Trp Glu Val Phe Asp Ile Trp Lys Leu Phe Arg Asn Phe Lys  
290 295 300

Asn Ser Ala Gln Leu Cys Leu Glu Leu Glu Ala Trp Glu Arg Gly Arg  
305 310 315 320

Ala Val Asp Leu Arg Gly Leu Gly Phe Asp Arg Ala Ala Arg Gln Val  
325 330 335

His Glu Lys Ala Leu Phe Leu Val Phe Gly Arg Thr Lys Lys Arg Asp  
340 345 350

Leu Phe Phe Asn Glu Ile Lys Ala Arg Ser Gly Gln Asp Asp Lys Thr  
355 360 365

Val Tyr Glu Tyr Leu Phe Ser Gln Arg Arg Lys Arg Arg  
370 375 380